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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,589

03/19/2004

Michael A. Kost

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EXAMINER

WANG, TED M

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/805,589

Applicant(s)

KOST ET AL.

Examiner

Ted M. Wang

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9, 12, 14, 17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4-8, 10, 11, 13, 15, 16, 18 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/14/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 9, 12, 14, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stagg (GB 2200817 A).

□ With regard claim 1, Stagg discloses a system comprising:

a first set of storage locations (Fig1 element 101);

a second set of storage locations (Fig.1 element 121, where the multiplexer is considered as a memory since before the data read out the data are kept in the multiplexer 121); and

control logic (Fig.1 elements 103, 105, 106, 109, 111, 111, 113, 118, 123) configured to

load data from a plurality of parallel data streams received according to a first clock signal having a first rate into the first set of storage locations (page 3 lines 10-14),

load data from the first set of storage locations to the second set of storage locations (page 3 lines 14-16 and Fig.1 element 121, where the data is

loaded based on the frame word generator 123 from the output of 4:1 multiplexer 118),

read data from the second set of storage locations according to a second clock signal having a rate that is different from the rate of the first clock signal (page 3 lines 16-18),

determine a delay between data being loaded into the first set of storage locations and the same data being loaded into the second set of storage locations (Fig.1 element 103, 106, 113, and page 3 line 18-25 and page 4 line 1 to page 5 line 19, where the delay is determined to decide if a data bit from FIFO 113 needs to be inserted into multiplexer 111.), and

selectively add or drop data to maintain the delay in a predetermined range (page 3 lines 18-25 and page 3 line 18-25 and page 4 line 1 to page 5 line 19).

Stagg discloses all of the subject matter as described in the above paragraph except for specifically teaching allowing values of the data to stabilize in the first set of storage locations.

However, examiner considers this limitation as an obvious system design requirement for any of the data transfer technique since without stabilizing the stored data the data transformation will be failed due to unstable data source. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to require allowing values of the

data to stabilize in the first set of storage locations so that the data communication or transformation can be properly established.

- With regard claim 9, Stagg further discloses wherein the parallel data streams comprise n data streams (page 1 lines 15-19).
- With regard claim 12, Stagg further discloses wherein the control logic is configured to reading data from the second set of storage locations in an interleaved fashion to generate a single serial data stream at the second clock rate (page 3 lines 18-21).
- With regard claim 14, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 17, which is a method claim related to claim 9, all limitation is contained in claim 9. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 19, Stagg further discloses wherein reading data from the second set of storage locations comprises interleaving the data from the parallel data streams and generating a single serial data stream at the second clock rate (page 5 lines 8-11).
- With regard claim 20, which is a method claim related to claim 12, all limitation is contained in claim 12. The explanation of all the limitation is already addressed in the above paragraph.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stagg (GB 2200817 A) in view of Fukasawa (US 5,642,387).

- With regard claim 2, Stagg discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein the storage locations comprise flip-flops.

However, Fukasawa teaches wherein the storage locations comprise flip-flops (Fig.2 element 10, 22, 24 and 20 and column 4 lines 32-37) in order to absorb clock jitter without bit slip so that the elastic storage method can be improved (column 1 lines 24-28 and lines 61-62). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the elastic store comprising FF as taught by Fukasawa into Stagg's elastic store so as to absorb clock jitter without bit slip so that the elastic storage method can be improved.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stagg (GB 2200817 A) in view of Kang et al. (US 6,748,497).

- With regard claim 3, Stagg discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein the control logic comprises a state machine.

However, Kang et al. teaches teaching wherein the control logic comprises a state machine (Fig.3 element 304) in order to implement the control logic with a software or firmware to reduce the device board size. Therefore, It would have been obvious to one of ordinary skill in the art at the

time of the invention was made to include the state machine for controlling the memory as taught by Kang et al. to replace Stagg's control logic so as to reduce the device board size.

Allowable Subject Matter

5. Claims 4-8, 10, 11, 13, 15, 16, 18 and 21 are objected to as being dependent upon an objected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang

A handwritten signature in black ink, appearing to be 'Ted M. Wang', written over a horizontal line.

Ted M Wang
Examiner
Art Unit 2611